

REMARKS

Reconsideration and allowance are respectfully requested.

The amendments proposed in this Response particularly point out the subject matter of the invention. Claims 3-11 are similar in scope to claim 1. No new matter has been added. Entry and allowance are requested.

Claim 1 as well as claims 3-11 are patentable under 35 US.C. 103(a) over Applicant's Admitted Prior Art (AAPA) in view of Vollmer (US 6,149,051).

The Examiner's reading of the AAPA is in error. Claims 1 and 3 define several important features distinguishable from AAPA and Vollmer. Obviousness is tested by what the combined teachings of the references would have suggested to those of ordinary skill in the art. It cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Teachings of references can be combined only if there is some suggestion or incentive to do so. In re Fine, 5 USPQ2d 1596, 1599 (CAFC, 1988).

For example, AAPA provides a conventional method showing connected positions by the brazing solder for a point to point connection resulting in low connection strength between neighboring plates (see, for example, specification page 1, lines 29-31). Contrastingly, the claimed invention defines connected positions for a plane to plane connection resulting in a high connection strength between the plates. AAPA does not define

such a feature despite the examiner's contention to the contrary.

More particularly, the examiner equates the AAPA "point to point" connection to be the claimed "plane to plane" connection, even though AAPA paragraphs 2-7 relied on by the examiner do not describe, teach or inherently provide "plane to plane" connection.

Furthermore, the Examiner states that AAPA teaches "coating a brazing paste" in paragraphs 2-7. However, assuming the examiner is referring to the specification as filed, there is no basis for such a holding, which teaching stems from the present invention and cannot form a basis in an obviousness rejection.

"It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." In re Fritch, 23 USPQ2d 1783, 1784 (CAFC, August 1992), quoting from In re Gorman, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). "This court has previously stated that one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." Id. quoting from In re Fine, 5 USPQ2d 1600 (CAFC, 1988).

Vollmer relates to a brazing method for a "substantially isomorphous beta phase only titanium base material", which is essentially a titanium alloy (beta 21s) as consistently taught by that reference. Contrastingly, the present invention discloses brazing titanium only. In fact, Vollmer describes at length the unfavorable results of brazing titanium (as opposed to titanium

alloy) in columns 9, lines 47-67 to column 10, lines 1-20 and dissuades one of ordinary skill in the art from brazing titanium base material. Therefore, it is not understood how Vollmer's teaching of brazing titanium alloy as opposed to titanium (AAPA) can result in the claimed brazing of titanium as uniquely described and claimed in the present invention. At most, Vollmer teaches replacing the AAPA titanium honeycomb structure with the beta 21s titanium alloy and brazing that alloy, which has nothing to do with the claimed invention.

The courts have held, when the prior art contains apparently conflicting references, [the Board] must weigh each reference for its power to suggest solutions to an artisan of ordinary skill. In weighing the suggestive power of each reference, [the Board] must consider the degree to which one reference might discredit another. In re Young, 18 USPQ2d 1089, 1091 (CAFC, 1991).

The Examiner also states that Vollmer teaches "... a brazing paste is prepared... mixed with a neutral binder so that said paste is prepared." However, a review of the entire Vollmer patent does not provide a basis for such a contention. In fact, Vollmer teaches the opposite in column 5, lines 44-67 to column 6, lines 1-27, that the braze material may in be in the form of a foil, but powder form is preferred. Additionally, Vollmer states in column 5, lines 15-27, that the binder is applied to the base material titanium alloy to assist in adhering the braze material to the base material. Nothing in the reference even remotely hints at a braze material paste formed with a binder as contended

by the Examiner.

Citing In re Gordon, 221 USPQ, 1127, the court pointed out, "the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification". In re Fritch, 23 USPQ2d 1783, 1784 (CAFC, August 1992).

The Examiner contends that Vollmer teaches an alloy which melts under 880°C, and relies on Vollmer's abstract; column 3, lines 40-50; and column 5, line 35 to column 6 line 15, for such contention. The present claim defines heating the base titanium material coated with the brazing material below 880°C, i.e., the brazing temperature is below 880°C. Column 3, lines 40-50 point out the need for improved brazing methods that "are less temperature and/or time dependent..." The "less" qualifies the "dependent" factor and does not mean "less temperature" as stated by the examiner.

Vollmer's abstract states that the heating step can occur from about 760 to 932°C which the examiner equates to heating below 880°C. However, Vollmer expressly teaches several stages of heating in columns 7-8, wherein the initial heating occurs to about 760 to 832°C to uniformly heat the braze mixture and base materials and to burn off the binder. The second heating step occurs to the brazing temperature 900°C of the braze material which Vollmer teaches to be above its solidus and liquidus temperatures of 848°C and 856°C, respectively. Vollmer expressly

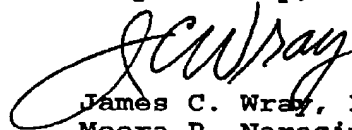
teaches in column 8, lines 6-17 that the brazing temperatures were 905°C, 905°C, and 932°C at three different holding times. Those brazing temperatures are definitely not the claimed brazing temperature of "below 880°C." Thus, Vollmer does not teach nor suggest the claimed invention.

That [the prior art] might incorporate elements which could be used in appellants' system does not render appellants' claims obvious when there is no suggestion of using these elements in substantially the same manner as appellants use them. In re Donovan, 184 USPQ 414, 421 (CCPA, 1975).

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Since Applicant has presented a novel, unique and non-obvious invention, reconsideration and allowance are respectfully requested.

Respectfully,



James C. Wray, Reg. No. 22,693
Meera P. Narasimhan, Reg. No. 40,252
1493 Chain Bridge Road, Suite 300
McLean, Virginia 22101
Tel: (703) 442-4800
Fax: (703) 448-7397

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